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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,338

11/18/2003

Anand G. Dabak

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06/17/2009

TEXAS INSTRUMENTS INCORPORATED

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EXAMINER

PATEL, CHANDRAHAS B

ART UNIT

PAPER NUMBER

2416

NOTIFICATION DATE

DELIVERY MODE

06/17/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com

Office Action Summary	Application No. 10/718,338	Applicant(s) DABAK ET AL.	
	Examiner Chandrabhas Patel	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28,30-35,39-42 and 44-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28, 30-35, 39-42, 44-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the appeal brief filed on 5/5/2009, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit 2416.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 39 is rejected under 35 U.S.C. 102(e) as being anticipated by Andoh (USPN 6,259,749).

Regarding claim 39, Andoh teaches a circuit, comprising an encoder circuit coupled to receive a plurality of symbols **[Fig. 1, receives symbols at input]**, the encoder circuit producing the plurality of symbols and a sequence of predetermined signals at a first **[Col. 3, lines 23-29, produces the predetermined signals at first output]** and a second output terminal **[Col. 3, lines 29-33, produces the predetermined signals at the second output terminal]**, wherein the sequence of predetermined signals comprises a code sequence **[Col. 3, lines 23-23, the sequence comprises of pulse sequences which are code sequences]**, and wherein a first shift of the code sequence corresponds to the first output terminal and a second shift of the code sequence corresponds to the second output terminal **[Fig. 1, Col. 3, lines 23-33, outputs from each stage corresponds to the output terminal where the first stage produces first shift of the sequences and second stage produces second shift of the sequences]**.

Claim Rejections - 35 USC § 103

4. Claims 28, 30, 31, 35, 40, 41, 44, 45, 49 rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831).

Regarding claim 28, Whinnett teaches a circuit, comprising an encoder circuit coupled to receive a plurality of symbols **[Fig. 5, 20]**, the encoder circuit producing the plurality of symbols at a first output terminal **[Fig. 5, top line output of 88]** and a transform of the plurality of symbols at a second output terminal within a time slot **[Fig. 5, bottom line output of 88 which is a transform of original data]**, the encoder

circuit producing a sequence of predetermined signals interposed with the plurality of symbols **[Fig. 5, 92 adds predetermined signals]**, the circuit producing plurality of symbols at two terminals **[Fig. 5, two signals outputs from 88]**, the circuit producing a plurality of symbols at the first output terminal and the transform of the symbols at the second output terminal **[Fig. 5, top and bottom output lines of 88]**.

However, Whinnett does not teach that circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal.

Secord teaches the circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal **[Col. 5, lines 43-49, power control bits which transforms the signal are only inserted depending on output signal of MUX 40 in Fig. 5]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to decide whether to transform or not plurality of symbols at the output terminal to provide additional time diversity **[Col. 5, lines 37-39]**.

Regarding claims 30 and 44, Secord further teaches a diversity control circuit coupled to receive a first input signal, the diversity control circuit producing the control signal corresponding to the first input signal **[Col. 5, lines 39-43, MUX 40 in Fig. 5 produces the control signal corresponding to the first input signal from 20]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a diversity control circuit to randomize error bursts **[Col. 5, lines 39-43]**.

Regarding claims 31 and 45, Secord further teaches the first input signal corresponds to a Doppler frequency **[Col. 5, lines 46-49]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a Doppler frequency as the input signal to achieve frequency diversity **[Col. 5, lines 46-49]**.

Regarding claims 35 and 49, Whinnett teaches the sequence of predetermined signals comprises a code sequence **[Col. 5, lines 12-16]**, and wherein a first shift of the code sequence corresponds to the first output terminal and a second shift of the code sequence corresponds to the second output terminal **[Col. 5, lines 28-35]**.

Regarding claim 40, Whinnett teaches a circuit comprising: an encoder circuit coupled to receive a plurality of first symbols corresponding to a first user **[Fig. 5, 20]**, the encoder circuit producing the plurality of first symbols at a first output terminal **[Fig. 5, top line output of 88]** and a transform of the plurality of first symbols at a second output terminal within a time slot **[Fig. 5, bottom line output of 88 which is a transform of original data]**, the circuit producing a plurality of symbols at the first output terminal and the transform of the symbols at the second output terminal **[Fig. 5, top and bottom output lines of 88]**; a first multiplier circuit coupled to receive the plurality of first symbols and arranged to multiply the plurality of first symbols by a code corresponding to the first user to produce a first coded signal **[Fig. 5, 92]**, wherein the

first coded signal is applied to a first antenna **[Fig. 5, 100]**; and a second multiplier circuit coupled to receive the transform of the plurality of first symbols and arranged to multiply the transform of the plurality of first symbols by the code corresponding to the first user to produce a second coded signal **[Fig. 5, 92]**, wherein the second coded signal is applied to a second antenna **[Fig. 5, 102]**.

However, Whinnett does not teach that circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal.

Second teaches the circuit is coupled to receive a control signal, the encoder circuit producing the plurality of symbols at an output terminal and not producing the transform of the plurality of symbols at the output terminal in response to a second value of the control signal **[Col. 5, lines 43-49, power control bits which transforms the signal are only inserted depending on output signal of MUX 40 in Fig. 5]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to decide whether to transform or not plurality of symbols at the output terminal to provide additional time diversity **[Col. 5, lines 37-39]**.

Regarding claim 41, Whinnett teaches a third multiplier circuit coupled to receive a plurality of second symbols and arranged to multiply the plurality of second symbols by a code corresponding to a second user to produce a third coded signal **[Fig. 5, 94]**.

5. Claims 32, 33, 46, 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claims 31, 30, 45, 44 above respectively, and further in view of Kang et al. (USPN 6,487,191).

Regarding claims 32 and 46, the references teach a circuit as discussed in rejection of claims 31 and 45.

However, the references do not teach the diversity control circuit is further coupled to receive a second input signal corresponding to a handoff signal.

Kang teaches the diversity control circuit is further coupled to receive a second input signal corresponding to a handoff signal **[Col. 7, lines 7-12 – Col. 8, lines 1-8]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a second input signal corresponding to a handoff signal so that power increase request information is only sent to a base station whose signal-to-noise ratio is the largest so that that base station starts modulating encoded signals **[Col. 7, lines 7-12 – Col. 8, lines 1-8]**.

Regarding claims 33 and 47, the references teach a circuit as discussed in rejection of claims 30 and 44.

However, the references do not teach the first input signal corresponds to a handoff signal.

Kang teaches that the first input signal corresponds to a handoff signal **[Col. 7, lines 7-12 – Col. 8, lines 1-8]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a first input signal corresponding to a handoff signal so that power increase request information is only sent to a base station whose signal-to-noise ratio is the largest so that that base station starts modulating encoded signals [**Col. 7, lines 7-12 – Col. 8, lines 1-8**].

6. Claims 34 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claim 28 above, and further in view of Bohnke et al. (USPN 6,567,374).

Regarding claims 34 and 48, Whinnett teaches a circuit as discussed in rejection of claim 28 and 40.

However, Whinnett does not teach the encoder circuit produces a midamble of the predetermined signal interposed with the plurality of symbols.

Bohnke teaches producing a midamble of the predetermined signal interposed with the plurality of symbols [**Fig. 2**].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a midamble of the predetermined signal so that midamble can be used to transmit symbols to be used to provide time and frequency synchronization [**Abstract**].

7. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whinnett et al. (USPN 6,317,411) in view of Secord et al. (USPN 6,373,831) as applied to claim 41 above, and further in view of Takahashi (USPN 6,396,821).

Regarding claim 42, Whinnett teaches a circuit as discussed in rejection of claim 41.

However, Whinnett does not teach the third coded signal is applied to the first antenna and not the second antenna.

Takahashi teaches a coded signal is applied to the first antenna and not the second antenna **[Col. 5, lines 8-15]**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply a signal to one antenna and not the other antenna so that diversity transmission control can be carried out **[Col. 5, lines 22-25]**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chandrahas Patel whose telephone number is (571)270-1211. The examiner can normally be reached on Monday through Thursday 7:30 to 17:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2416

/Chandrabhas Patel/
Examiner, Art Unit 2416